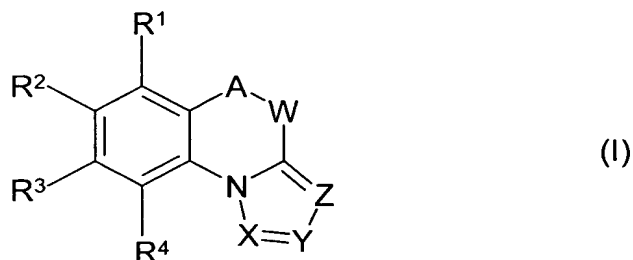


IN THE CLAIMS

1. (Original) The use of a compound of the formula (I) or a salt thereof:



wherein:

A-W is N=N, N⁺(O⁻)=N or NR⁵-NR⁶, wherein A represents the atom or substituted atom shown on the left side of the groups representing A-W;

X is N or CR⁷;

Y is N or CR⁸;

Z is N or CR⁹;

R¹, R², R³ and R⁴ are each independently H, OH, halogen, nitro, cyano, formyl, amino, carbamoyl, CO₂H or sulfamoyl, or benzyl or phenoxy,

where each of the latter two radicals is unsubstituted or substituted by one or more radicals selected from the group consisting of (C₁-C₆)alkyl, (C₁-C₆)haloalkyl, halogen, OH, (C₁-C₆)alkoxy, (C₁-C₆)haloalkoxy, (C₁-C₆)alkyl-S(O)_n⁻, nitro, cyano, amino, (C₁-C₆)alkylamino, (C₁-C₆)dialkylamino, (C₁-C₆)alkoxycarbonyl and CO₂H,

or are (C₁-C₆)alkyl, (C₂-C₆)alkenyl, (C₂-C₆)alkynyl, (C₃-C₆)cycloalkyl, (C₃-C₆)cycloalkyl-(C₁-C₆)alkyl-, (C₁-C₆)alkoxy, (C₂-C₆)alkenyloxy, (C₂-C₆)alkynyloxy, (C₁-C₆)alkyl-C(=O)O-, (C₁-C₆)alkyl-S(O)_n⁻, (C₁-C₆)alkylamino, (C₁-C₆)dialkylamino, (C₁-C₆)alkoxycarbonyl, (C₁-C₆)alkylcarbonyl, (C₁-C₆)alkylcarbamoyl, (C₁-C₆)dialkylcarbamoyl, (C₁-C₆)alkylsulfamoyl or (C₁-C₆)dialkylsulfamoyl,

where each of the 18 last-mentioned radicals is unsubstituted or substituted by one or more radicals selected from the group consisting of halogen, OH, (C₁-C₆)alkoxy, (C₁-C₆)alkyl-S(O)_n⁻ and in the case of cyclic radicals also (C₁-C₆)alkyl and (C₁-C₆)haloalkyl;

R⁵ and R⁶ are each independently H, (C₁-C₆)alkyl, (C₁-C₆)haloalkyl, (C₂-C₆)alkenyl, (C₂-C₆)alkynyl, formyl, (C₁-C₆)alkylcarbonyl, (C₂-C₆)alkenylcarbonyl, COR¹⁰, (C₁-C₆)alkoxycarbonyl, (C₁-C₆)alkyl-SO₂⁻, (C₁-C₆)alkoxy-(C₁-C₆)alkyl- or R¹⁰;

R^7 , R^8 and R^9 are each independently H, halogen, nitro, cyano, $S(O)_nR^{10}$, $S(O)_nCH_2CO_2R^{11}$, $S(O)_nCH_2CO_2N[(C_1-C_6)alkyl]_2$, $S(O)_nCH_2CONR^{12}R^{13}$, $S(O)_nCH_2CONR^{14}NR^{15}$, formyl, carbamoyl, OH, SH, R^{10} , $NR^{16}R^{17}$, 1,3-dioxolan-2-yl, $(C_1-C_6)alkyl$, $(C_3-C_6)cycloalkyl$, $(C_2-C_6)alkenyl$, $(C_2-C_6)alkynyl$, $(C_1-C_6)alkoxy$, $(C_1-C_6)alkyl-S(O)_n-$, $(C_1-C_6)alkoxycarbonyl$, $(C_1-C_6)alkylcarbonyl$, $(C_1-C_6)alkylcarbamoyl$ or $(C_1-C_6)dialkylcarbamoyl$, where each of the 10 last-mentioned radicals is unsubstituted or substituted by one or more radicals selected from the group consisting of halogen, OH, $(C_1-C_6)alkoxy$, $(C_1-C_6)alkyl-S(O)_n-$ and in the case of cyclic radicals also $(C_1-C_6)alkyl$ and $(C_1-C_6)haloalkyl$;

R^{10} is $(CH_2)_mphenyl$ unsubstituted or substituted by one or more radicals selected from the group consisting of halogen, $(C_1-C_6)alkyl$, $(C_1-C_6)haloalkyl$, $(C_1-C_6)alkoxy$, $(C_1-C_6)haloalkoxy$, nitro, cyano, $(C_1-C_6)alkyl-S(O)_n-$, $(C_1-C_6)haloalkyl-S(O)_n-$, amino, $(C_1-C_6)alkylamino$, $(C_1-C_6)dialkylamino$, $(C_1-C_6)alkylcarbonyl$, carbamoyl, $(C_1-C_6)alkylcarbamoyl$, $(C_1-C_6)dialkylcarbamoyl$, sulfamoyl, $(C_1-C_6)alkylsulfamoyl$ and $(C_1-C_6)dialkylsulfamoyl$;

R^{11} is H or $(C_1-C_6)alkyl$;

R^{12} and R^{13} , or R^{16} and R^{17} are each independently H, $(C_1-C_6)alkyl$ or R^{10} ; or R^{12} and R^{13} , or R^{16} and R^{17} together with the respective attached N atom form a five- or six-membered saturated ring which optionally contains an additional hetero atom in the ring which is selected from O, S and N, the ring being unsubstituted or substituted by one or more radicals selected from halogen, $(C_1-C_6)alkyl$ and $(C_1-C_6)haloalkyl$;

R^{14} and R^{15} are each independently H or $(C_1-C_6)alkyl$;

n is 0, 1 or 2 in each of the occurrences; and

m is 0 or 1;

as a herbicide or plant growth regulator.

2. (Original) The use as claimed in claim 1 wherein A-W is A-W is $N=N$, $N^+(O^-)=N$ or $NH-NH$.

3. (Currently amended) The use as claimed in claim ~~1~~ ~~1-2~~ 1 wherein R^1 , R^2 , R^3 and R^4 are each independently H, OH, halogen, nitro, cyano, formyl, amino, carbamoyl, CO_2H or sulfamoyl, or benzyl or phenoxy, where each of the latter two radicals is unsubstituted or substituted by one or more radicals selected from the group consisting of $(C_1-C_4)alkyl$, $(C_1-$

C₄)haloalkyl, halogen, OH, (C₁-C₄)alkoxy, (C₁-C₄)haloalkoxy, (C₁-C₄)alkyl-S(O)_n-, nitro, cyano, amino, (C₁-C₄)alkylamino, (C₁-C₄)dialkylamino, (C₁-C₄)alkoxycarbonyl and CO₂H, or are (C₁-C₄)alkyl, (C₂-C₄)alkenyl, (C₂-C₄)alkynyl, (C₃-C₆)cycloalkyl, (C₃-C₆)cycloalkyl-(C₁-C₄)alkyl-, (C₁-C₄)alkoxy, (C₂-C₄)alkenyloxy, (C₂-C₄)alkynyloxy, (C₁-C₄)alkyl-C(=O)O-, (C₁-C₄)alkyl-S(O)_n-, (C₁-C₄)alkylamino, (C₁-C₄)dialkylamino, (C₁-C₄)alkoxycarbonyl, (C₁-C₄)alkylcarbonyl, (C₁-C₄)alkylcarbamoyl, (C₁-C₄)dialkylcarbamoyl, (C₁-C₄)alkylsulfamoyl or (C₁-C₄)dialkylsulfamoyl, where each of the 18 last-mentioned radicals is unsubstituted or substituted by one or more radicals selected from the group consisting of halogen, OH, (C₁-C₄)alkoxy, (C₁-C₄)alkyl-S(O)_n- and in the case of cyclic radicals also (C₁-C₆)alkyl and (C₁-C₆)haloalkyl.

4. (Currently Amended) The use as claimed in claim 1, 2 or 3 wherein X is N or CR⁷ wherein R⁷ is H, halogen, nitro, cyano, S(O)_nR¹⁰, S(O)_nCH₂CO₂R¹¹, S(O)_nCH₂CONR¹²R¹³, S(O)_nCH₂CONR¹⁴NR¹⁵, formyl, carbamoyl, OH, SH, R¹⁰, NR¹⁶R¹⁷, 1,3-dioxolan-2-yl, (C₁-C₄)alkyl, (C₃-C₆)cycloalkyl, (C₂-C₄)alkenyl, (C₂-C₄)alkynyl, (C₁-C₄)alkoxy, (C₁-C₄)alkyl-S(O)_n-, (C₁-C₄)alkoxycarbonyl, (C₁-C₄)alkylcarbonyl, (C₁-C₄)alkylcarbamoyl, (C₁-C₄)dialkylcarbamoyl, where each of the 10 last-mentioned radicals is unsubstituted or substituted by one or more radicals selected from the group consisting of halogen, OH, (C₁-C₄)alkoxy and (C₁-C₄)alkyl-S(O)_n-; in which

R¹⁰ is (CH₂)_mphenyl unsubstituted or substituted by one or more radicals selected from the group consisting of halogen, (C₁-C₄)alkyl, (C₁-C₄)haloalkyl, (C₁-C₄)alkoxy, (C₁-C₄)haloalkoxy, nitro, cyano, (C₁-C₄)alkyl-S(O)_n-, (C₁-C₄)haloalkyl-S(O)_n-, amino, (C₁-C₄)alkylamino, (C₁-C₄)dialkylamino, (C₁-C₄)alkylcarbonyl, carbamoyl, (C₁-C₄)alkylcarbamoyl, (C₁-C₄)dialkylcarbamoyl, sulfamoyl, (C₁-C₄)alkylsulfamoyl and (C₁-C₄)dialkylsulfamoyl;

R¹¹ is H or (C₁-C₄)alkyl;

R¹² and R¹³, or R¹⁶ and R¹⁷ are each independently H, (C₁-C₄)alkyl or R¹⁰; or R¹² and R¹³, or R¹⁶ and R¹⁷ together with the respective attached N atom form a five- or six-membered saturated ring which optionally contains an additional hetero atom in the ring which is selected from O, S and N, the ring being unsubstituted or substituted by one or more radicals selected from halogen, (C₁-C₄)alkyl and (C₁-C₄)haloalkyl; and

R¹⁴ and R¹⁵ are each independently H or (C₁-C₄)alkyl.

5. (Currently Amended) The use as claimed in claim 1 ~~any one of claims 1 to 4~~ wherein Y and Z are each N.

6. (Original) The use as claimed in claim 1 wherein:

A-W is N=N, N⁺(O⁻)=N or NH-NH;

R¹, R², R³ and R⁴ are each independently H, OH, halogen, nitro, cyano, formyl, amino, carbamoyl, CO₂H or sulfamoyl, or benzyl or phenoxy,

where each of the latter two radicals is unsubstituted or substituted by one or more radicals selected from the group consisting of (C₁-C₄)alkyl, (C₁-C₄)haloalkyl, halogen, OH, (C₁-C₄)alkoxy, (C₁-C₄)haloalkoxy, (C₁-C₄)alkyl-S(O)_n-, nitro, cyano, amino, (C₁-C₄)alkylamino, (C₁-C₄)dialkylamino, (C₁-C₄)alkoxycarbonyl and CO₂H, or are (C₁-C₄)alkyl, (C₂-C₄)alkenyl, (C₂-C₄)alkynyl, (C₃-C₆)cycloalkyl, (C₃-C₆)cycloalkyl-(C₁-C₄)alkyl-, (C₁-C₄)alkoxy, (C₂-C₄)alkenyloxy, (C₂-C₄)alkynyloxy, (C₁-C₄)alkyl-C(=O)O-, (C₁-C₄)alkyl-S(O)_n-, (C₁-C₄)alkylamino, (C₁-C₄)dialkylamino, (C₁-C₄)alkoxycarbonyl, (C₁-C₄)alkylcarbonyl, (C₁-C₄)alkylcarbamoyl, (C₁-C₄)dialkylcarbamoyl, (C₁-C₄)alkylsulfamoyl or (C₁-C₄)dialkylsulfamoyl,

where each of the 18 last-mentioned radicals is unsubstituted or substituted by one or more radicals selected from the group consisting of halogen, OH, (C₁-C₄)alkoxy, (C₁-C₄)alkyl-S(O)_n- and in the case of cyclic radicals also (C₁-C₆)alkyl and (C₁-C₆)haloalkyl;

X is N or CR⁷;

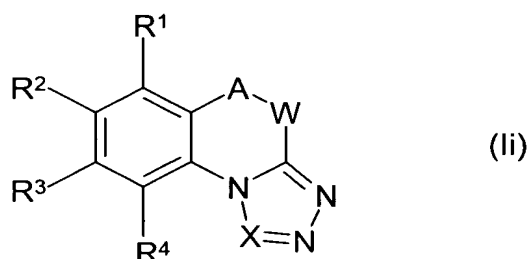
R⁷ is H, (C₁-C₄)alkyl, (C₁-C₄)haloalkyl, (C₂-C₄)alkenyl, (C₂-C₄)alkynyl, (C₁-C₄)alkoxy, (C₁-C₄)haloalkoxy, halogen, nitro, cyano, (C₁-C₄)alkyl-S(O)_n-, (C₁-C₄)haloalkyl-S(O)_n-, S(O)_nR¹⁰, S(O)_nCH₂CO₂R¹¹, S(O)_nCH₂CO₂N[(C₁-C₄)alkyl]₂, S(O)_nCH₂CONR¹²R¹³, S(O)_nCH₂CONR¹⁴NR¹⁵, (C₁-C₄)alkoxycarbonyl, formyl, (C₁-C₄)alkylcarbonyl, (C₁-C₄)haloalkylcarbonyl, carbamoyl, (C₁-C₄)alkylcarbamoyl, (C₁-C₄)dialkylcarbamoyl, OH, SH, R¹⁰, NR¹⁶R¹⁷ or 1,3-dioxolan-2-yl; in which

R¹⁰ is (CH₂)_mphenyl unsubstituted or substituted by one or more radicals selected from the group consisting of halogen, (C₁-C₄)alkyl, (C₁-C₄)haloalkyl, (C₁-C₄)alkoxy, (C₁-C₄)haloalkoxy, nitro, cyano, (C₁-C₄)alkyl-S(O)_n-, (C₁-C₄)haloalkyl-S(O)_n-, amino, (C₁-C₄)alkylamino, (C₁-C₄)dialkylamino, (C₁-C₄)alkylcarbonyl, carbamoyl, (C₁-C₄)alkylcarbamoyl, (C₁-C₄)dialkylcarbamoyl, sulfamoyl, (C₁-C₄)alkylsulfamoyl and (C₁-C₄)dialkylsulfamoyl;

R¹¹ is H or (C₁-C₄)alkyl;

R^{12} and R^{13} , or R^{16} and R^{17} are each independently H, (C₁-C₄)alkyl or R^{10} ; or R^{12} and R^{13} , or R^{16} and R^{17} together with the respective attached N atom form a five- or six-membered saturated ring which optionally contains an additional hetero atom in the ring which is selected from O, S and N, the ring being unsubstituted or substituted by one or more radicals selected from halogen, (C₁-C₄)alkyl and (C₁-C₄)haloalkyl; and R^{14} and R^{15} are each independently H or (C₁-C₄)alkyl; and
Y and Z are each N.

7. (Original) A compound as claimed in claim 1, of formula (Ii):



wherein:

A-W is N=N, N⁺(O⁻)=N or NH-NH, in which A represents the atom or substituted atom shown on the left side of the groups representing A-W;

X is N or CR⁷;

R^1 , R^2 , R^3 and R^4 are each independently H, OH, halogen, nitro, cyano, formyl, amino, carbamoyl, CO₂H or sulfamoyl, or benzyl or phenoxy,

where each of the latter two radicals is unsubstituted or substituted by one or more radicals selected from the group consisting of (C₁-C₆)alkyl, (C₁-C₆)haloalkyl, halogen, OH, (C₁-C₆)alkoxy, (C₁-C₆)haloalkoxy, (C₁-C₆)alkyl-S(O)_n-, nitro, cyano, amino, (C₁-C₆)alkylamino, (C₁-C₆)dialkylamino, (C₁-C₆)alkoxycarbonyl and CO₂H,

or are (C₁-C₆)alkyl, (C₂-C₆)alkenyl, (C₂-C₆)alkynyl, (C₃-C₆)cycloalkyl, (C₃-C₆)cycloalkyl-(C₁-C₆)alkyl-, (C₁-C₆)alkoxy, (C₂-C₆)alkenyloxy, (C₂-C₆)alkynyloxy, (C₁-C₆)alkyl-C(=O)O-, (C₁-C₆)alkyl-S(O)_n-, (C₁-C₆)alkylamino, (C₁-C₆)dialkylamino, (C₁-C₆)alkoxycarbonyl, (C₁-C₆)alkylcarbonyl, (C₁-C₆)alkylcarbamoyl, (C₁-C₆)dialkylcarbamoyl, (C₁-C₆)alkylsulfamoyl or (C₁-C₆)dialkylsulfamoyl,

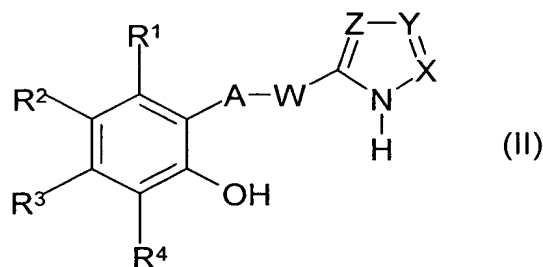
where each of the 18 last-mentioned radicals is unsubstituted or substituted by one or more radicals selected from the group consisting of halogen, OH, (C₁-C₆)alkoxy, (C₁-C₆)alkyl-S(O)_n- and in the case of cyclic radicals also (C₁-C₆)alkyl and (C₁-C₆)haloalkyl;

R^7 is H, (C_1-C_6) alkyl, (C_1-C_6) haloalkyl, (C_2-C_6) alkenyl, (C_2-C_6) alkynyl, (C_1-C_6) alkoxy, (C_1-C_6) haloalkoxy, halogen, nitro, cyano, (C_1-C_6) alkyl-S(O) $_n$ -, (C_1-C_6) haloalkyl-S(O) $_n$ -, (C_1-C_6) alkoxycarbonyl, formyl, (C_1-C_6) alkylcarbonyl, (C_1-C_6) haloalkylcarbonyl, carbamoyl, (C_1-C_6) alkylcarbamoyl, (C_1-C_6) dialkylcarbamoyl, $NR^{16}R^{17}$ or 1,3-dioxolan-2-yl; and R^{16} and R^{17} are each independently H, (C_1-C_6) alkyl or R^{10} , wherein R^{10} is as defined above; with the exclusion of compounds wherein:

- i) A-W is N=N; R^1 , R^2 , R^3 and R^4 are each H; and X is CBr, CSO₂Me, CSMe, CMe or CH;
- ii) A-W is N=N; R^1 , R^3 and R^4 are each H; R^2 is Cl; and X is CH;
- iii) A-W is N=N; R^2 , R^3 and R^4 are each H; R^1 is OH; and X is CH;
- iv) A-W is $N^+(O^-)=N$; R^1 , R^2 , R^3 and R^4 are each H; and X is CH;
- v) A-W is NH-NH; R^1 , R^2 , R^3 and R^4 are each H; and X is CSMe or CH;
- vi) A-W is NH-NH; R^1 , R^3 and R^4 are each H; R^2 is Me; and X is CH;
- vii) A-W is N=N; R^1 , R^2 and R^4 are each H; R^3 is OMe; and X is N;
- viii) A-W is N=N; R^1 , R^3 and R^4 are each H; R^2 is OMe, Me or H; and X is N;
- ix) A-W is N=N; R^1 and R^3 are each H; R^2 and R^4 are each Me; and X is N;
- x) A-W is $N^+(O^-)=N$; R^1 , R^3 and R^4 are each H; R^2 is Me or OMe; and X is N;
- xi) A-W is $N^+(O^-)=N$; R^1 and R^3 are each H; R^2 and R^4 are each Me; and X is N; and
- xii) A-W is NH-NH; R^1 , R^2 , R^3 and R^4 are each H; and X is N.

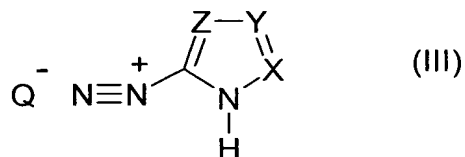
8. (Original) A process for the preparation of a compound of formula (I), or a salt thereof, as defined in claim 7 which comprises:

- a) where A-W is N=N or $N^+(O^-)=N$, cyclodehydrating a compound of formula (II):

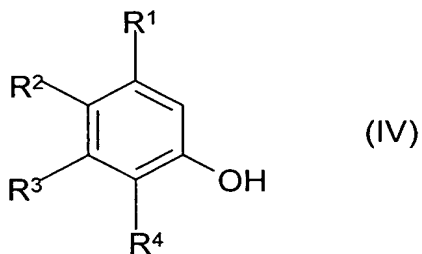


wherein A-W is N=N or $N^+(O^-)=N$, and R^1 , R^2 , R^3 , R^4 , X, Y and Z are as defined in formula (I); or

b) where A-W is N=N, and the other values are as defined above, coupling a diazonium salt of formula (III):



wherein X, Y and Z are as defined in formula (I) and Q is a chloride, sulfate or fluoroborate, with a compound of formula (IV):



wherein R^1 , R^2 , R^3 and R^4 are as defined in claim 1, to give an azo intermediate of formula (II) wherein A-W is N=N, and the other values are as defined in formula (I), followed by the above described cyclodehydration; or

c) where A-W is $\text{NR}^5\text{-NR}^6$; R^1 , R^2 , R^3 , R^4 , R^6 , X, Y and Z are as defined in formula (I), and R^5 is as defined in formula (I) with the exclusion of H, reacting the corresponding compound of formula (I) wherein R^5 is H, with a compound of formula (VI):



wherein R^5 is as defined in formula (I) with the exclusion of H, and L is a leaving group; or

d) where A-W is $\text{NR}^5\text{-NR}^6$; R^1 , R^2 , R^3 , R^4 , R^5 , X, Y and Z are as defined in formula (I), and R^6 is as defined in formula (I) with the exclusion of H, reacting the corresponding compound of formula (I) wherein R^6 is H, with a compound of formula (VII):



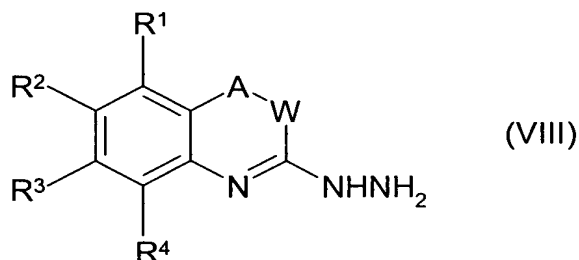
wherein R^6 is as defined in formula (I) with the exclusion of H, and L is a leaving group; or

e) where A-W is $\text{NR}^5\text{-NR}^6$, R^5 and R^6 are each H, and the other values are as defined in formula (I), reducing the corresponding compound of formula (I) wherein A-W is N=N or $\text{N}^+(\text{O}^-)=\text{N}$; or

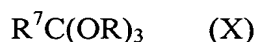
f) where A-W is N=N, and the other values are as defined in formula (I), reducing the corresponding compound of formula (I) wherein A-W is

$N^+(O^-)=N$; or

g) where A-W is N=N or $N^+(O^-)=N$, X is CR^7 , Y and Z are each N, and the other values are as defined in formula (I), reacting a compound of formula (VIII):

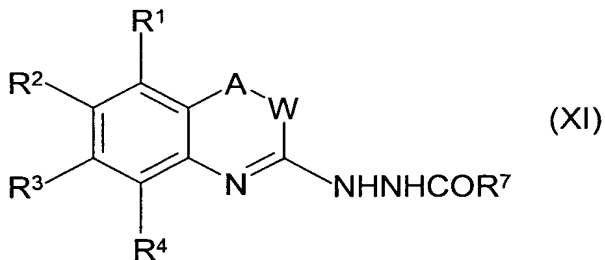


wherein A-W is N=N or $N^+(O^-)=N$, R^7 is H, (C_1-C_6) alkyl, (C_1-C_6) haloalkyl, (C_2-C_6) alkenyl, (C_2-C_6) alkynyl or R^{10} , and R^1 , R^2 , R^3 and R^4 are as defined in formula (I), with a carboxylic acid or an equivalent thereof of formula (IX) or (X):



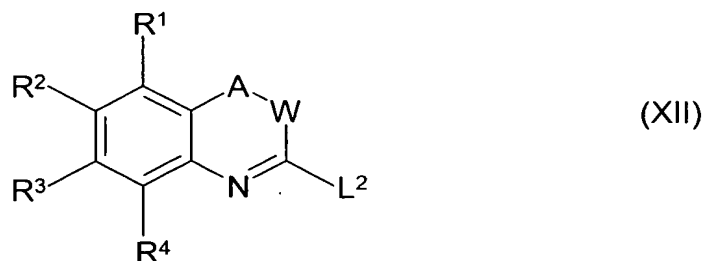
wherein R^7 is H, (C_1-C_6) alkyl, (C_1-C_6) haloalkyl, (C_2-C_6) alkenyl, (C_2-C_6) alkynyl or R^{10} , and L^1 is H or a leaving group; or

h) where A-W is N=N or $N^+(O^-)=N$, X is CR^7 , Y and Z are each N, and the other values are as defined in formula (I), cyclising a compound of formula (XI):



wherein A-W is N=N or $N^+(O^-)=N$, R^7 is H, (C_1-C_6) alkyl, (C_1-C_6) haloalkyl, (C_2-C_6) alkenyl, (C_2-C_6) alkynyl or R^{10} , and R^1 , R^2 , R^3 and R^4 are as defined in formula (I), in the presence of a dehydrating agent or a halogenating agent; or

i) where A-W is N=N or $N^+(O^-)=N$, and R^1 , R^2 , R^3 and R^4 are as defined in formula (I), reacting a compound of formula (XII):



wherein A-W is N=N or $N^+(O^-)=N$, R^1 , R^2 , R^3 and R^4 are as defined in formula (I), and L^2 is a leaving group, with a metal azide of formula (XIII):



wherein M is an alkali metal; or

j) where A-W is $N^+(O^-)=N$, and the other values are as defined in formula (I), oxidising the corresponding compound of formula (I) in which A-W is N=N.

9. (Currently Amended) A herbicidal or plant growth regulating composition characterised in that it comprises one or more compounds of the formula (I) or salts thereof as defined in claim 1 ~~any one of claims 1 to 7~~ and formulation auxiliaries which are customary in crop protection.

10. (Currently Amended) A method of controlling harmful plants or regulating the growth of plants characterised in that it comprises applying an effective amount of one or more compounds of the formula (I) or salts thereof as defined in claim 1 ~~any one of claims 1 to 7~~ to the plants to plant seeds or to the area under cultivation.